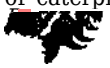
within comparatively recent years been discovered in connection with the larval stage of certain small butterflies belonging to the family *Lycænidæ*. The caterpillars are carnivorous, or rather aphidivorous; they live upon aphids, or plant-lice, and scale-insects, and cover themselves with the white exudations or mealy secretions of the latter. This trait is characteristic of only one of our North American species, the Harvester (*Feniseca tarquinius*).

FIG. 21.—Early stages of the goatweed butterfly (*Anæa andria*): *a*, caterpillar; *b*, chrysalis; *c*, leaf drawn together at edges

In addition to being protected from enemies by having colors which enable them to elude observation, as has been already stated, some caterpillars are provided with other means of defense. The caterpillars of the swallowtail butterflies are provided with a bifurcate or forked organ, generally yellow in color, which is protruded from an opening in the skin back of the head, and which emits a powerful scent-organs, or osmeteria, and defend themselves by quickly



(Riley.)

FIG. 22.—Head of caterpillar of swallowtail butterfly (*Papilio turnus*), showing osmeteria (natural size).

odor (Fig. 22)0 This protrusive organ evidently exists only for purposes of defense, and the secretion of the odor is analogous to the secretion of evil odors by some of the vertebrate animals, as the skunk. The majority of caterpillars, when attacked by insect or other enemies,

Moults.— Caterpillars in the process of growth and development from time to time shed their skins. This process is called *moulting.* Moulting takes place, as a rule, at regular intervals,